

I. SUMMARY OF FINDINGS

Overall we believe the debt markets are functioning well. Of the market segments we reviewed, U.S. Treasury securities and other Federal Agency bonds are the most actively traded and are also the most transparent and efficient. We found no evidence in those markets that dealers have a substantial advantage compared to institutional clients in terms of market knowledge. Other market segments function effectively as well, though some are distinctly less transparent and efficient than the government securities markets. Specifically, we found that:

- The markets for "benchmark" U.S. Treasury bonds are highly transparent. Bids, offers and trade prices from the interdealer market are widely available through interdealer broker ("IDB") screens, GovPX, Bloomberg and other vendors.
- Other Treasury and Federal Agency bonds, which trade in a relatively stable relationship to benchmark Treasuries, are ordinarily traded in terms of a basis point spread from the Treasury yield curve set by the benchmark bonds. Quotes in frequently traded securities are widely available, although the spreads are not as narrow as those for benchmark Treasuries. GovPx and others produce "valuations" on a real time basis for securities that do not have current dealer quotes. The combination of real time data for benchmark Treasuries and supplementary quotes and other information for the other securities appears to provide a very good level of pricing information for all government bonds.
- Mortgage Backed Securities ("MBS"), and other structured products such as Collateralized Mortgage Obligations ("CMOs") and Asset Backed Securities ("ABS") are primarily high credit quality securities with complex structures. Values are largely determined by a) the Treasury yield curve, b) the structure of the particular instrument, and c) the relationship of similar instruments to the Treasury yield curve. The relationship to Treasuries is established by markets in generic forward contracts called TBAs ("to be announced") for which current dealer quotes are available from IDBs, Bloomberg and other vendors. Relatively sophisticated analytical tools to value MBS, CMOs, and ABS are available from Bloomberg, Bridge and other vendors. Dealers and some institutional investors have in-house analytical models as well. At least two services make such tools available over the Internet. Overall, the quality of pricing information and interpretive tools available to the market is good.
- High yield corporate bonds generally do not have a stable relationship to Treasuries. Therefore, the transparency of the Treasury market does not imply known values for high yield bonds. Interdealer trading is facilitated by IDBs, but prices are not shown on screens. Dealer indicated prices for selected securities generally are transmitted to customers each day by fax and/or e-mail. Overall, the quality of pricing information available in the market for high yield corporate bonds is relatively poor, although dealers do not appear to enjoy a great advantage over their institutional clients.
- Investment grade corporate bonds fall between high yield corporates and government bonds both in credit quality and in terms of the quality of pricing information available. They are generally traded in terms of a spread from Treasuries but the relationship is less stable than for non-benchmark Treasuries and Federal Agency bonds. As with high yield corporates, interdealer trading is facilitated by IDBs but prices are not shown on IDB screens. "Investment grade" covers a spectrum of quality and the sensitivity of a bond's price to company or industry specific developments tends to increase with lower credit quality. Similarly, the quality of pricing information available for investment grade bonds may be described as ranging from fairly good to fair.
- Convertible bonds are not ordinarily traded in fixed income departments. Their close relationship to equity is demonstrated by the fact that both buy and sell side firms typically trade convertible securities (including convertible preferred) in their equity trading departments.
- Municipal bonds also do not trade in a close relationship to Treasuries although Treasury prices are certainly very important. The municipal market has become somewhat more commoditized in recent years with more new issues carrying credit insurance. However, this market is highly fragmented—and is characterized by an extremely large number of issues and issuers with a relatively small trading volume, and is highly regionalized. This is a market in which there are few real prices in comparison to the number of different securities. As a result, many securities are difficult to value either for portfolio valuation or trading. All market participants are impacted, but unlike other market segments, retail investors represent an important part of the municipal market (roughly 30% of holdings). The nature of the municipal market is such that price discovery is necessarily difficult, but the MSRB's transparency efforts will improve the distribution of prices, and will also provide the tools that the NASD requires to assure that the municipal market is fair.
- Dollar denominated foreign sovereign debt securities, particularly from emerging markets, also do not trade in a close relationship to Treasuries. There are approximately 10 major dealers in this market. Brady bonds, which were largely responsible for the development of this market, now account for less than half of its trading volume and are declining steadily in significance. Interdealer trading is facilitated by IDBs and real time quotes and transaction prices for many of these securities are provided by EDB screens to the dealer community, but are not generally available outside that group. End-of-day prices are readily available.
- Electronic trading of bonds is rapidly becoming a reality, though its ultimate impact is far from clear. There are several single dealer systems in operation, most of them accessible through Bloomberg terminals, offering some form of electronic trading of Treasury securities. Some also offer Federal Agency securities and at least one offers municipal and mortgage backed securities as well. One multi-dealer system, Trade Web, is currently in operation with five sponsoring dealers. Bloomberg, which provides access to several single dealer systems, is preparing to offer a more integrated facility providing access to the quotes of all participating dealers on a single screen. Several other electronic bond trading systems are known to be under development, including at least one that will focus on high yield corporate bonds. A recent survey by the Bond Market Association. ("TBMA") shows that there is a consensus in the industry that electronic execution in some form will be common within a few years.